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PTO/SB/21 (modified)

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Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

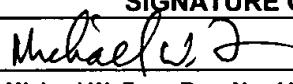
U.S. Department of Commerce Patent and Trademark Office		Application Number	10/087,408
		Filing Date	March 1, 2002
		First Named Inventor	Xiaodong Huang
		Group Art Unit Number	2828
		Examiner Name	James W. Davie
Total Number of Pages in This Submission	5 *	Attorney Docket Number	22920-06460

ENCLOSURES (check all that apply)

- | | |
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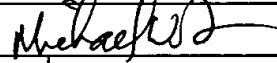
REMARKS: * Does not include pages in reference(s).

SIGNATURE OF ATTORNEY OR AGENT

Signature:	
Attorney/Reg. No.:	Michael W. Farn, Reg. No. 41,015
Dated:	June 25, 2003

CERTIFICATE OF MAILING

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Signature:	
Typed or Printed Name:	Michael W. Farn
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S): Xiaodong Huang, Andreas Stintz, Kevin Malloy, Guangtian Liu,
Luke Lester and Julian Cheng

APPLICATION NO.: 10/087,408

FILING DATE: March 1, 2002

TITLE: Quantum Dot Vertical Cavity Surface Emitting Laser

EXAMINER: James W. Davie

GROUP ART UNIT: 2828

ATTY. DKT. NO.: 22920-06460

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FOURTH INFORMATION DISCLOSURE STATEMENT
Under 37 CFR §§ 1.56 and 1.97-98

SIR:

Pursuant to the provisions of 37 CFR §§ 1.56 and 1.97-98, enclosed herewith is modified form PTO/SB/08A listing references for consideration by the Examiner. Enclosed is a copy of each listed reference that may be material to the examination of this application, and for which there may be a duty to disclose.

The filing of this Information Disclosure Statement shall not be construed as a representation regarding the completeness of the list of references, or that inclusion of a reference in this list is an admission that it is prior art or is pertinent to this application, or that a search has been made, or as an admission that the information listed is, or may be considered to be, material to patentability, or that no other material information exists, and shall not be construed as an admission against interest in any manner.

This Information Disclosure Statement is being filed:

- within three months of the filing date of the application, or date of entry into the national stage of an international application, or before the mailing date of a first office action on the merits, whichever event last occurred;

- before the mailing of a first official action after the filing of a request for continued examination (RCE) under 37 CFR § 1.114;
- after three months of the filing date of this national application or the date of entry of the national stage in an international application, or after the mailing date of the first official action on the merits, whichever event last occurred, but before the mailing date of the first to occur of either: (1) a final action under 37 CFR §1.113; or (2) an action that otherwise closes prosecution in the application, and:
 - attached hereto is the fee set forth under 37 CFR §1.17(p) for submission of this Information Disclosure Statement under 37 CFR. § 1.97(c); OR
 - Applicant certifies pursuant to 37 CFR § 1.97(e) that:
 - each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement; OR
 - no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing this certification after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated under 37 CFR § 1.56(c) more than three months prior to the filing of this Statement;
- on or before the payment of the issue fee but after the mailing date of the first to occur of either: (1) a final action under 37 CFR § 1.113; (2) a notice of allowance under 37 CFR § 1.311; or (3) an action that otherwise closes prosecution in the application, and:
 - Applicant certifies pursuant to 37 CFR. § 1.97(e) that:
 - each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement; or
 - no item of information contained in this Information Disclosure Statement was cited in a communication from a

foreign patent office in a counterpart foreign application and, to the knowledge of the person signing this certification after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated under 37 CFR § 1.56(c) more than three months prior to the filing of this Statement; AND

- attached hereto is the fee set forth under 37 CFR § 1.17(p) for submission of this Information Disclosure Statement under 37 CFR. § 1.97(c); OR
- after the payment of the issue fee. Applicant requests that the information contained in this Information Disclosure Statement be placed in the file according to 37 CFR § 1.97(i), although the information may not be considered by the USPTO.
- This application relies, under 35 U.S.C. § 120, on the earlier filing date of prior application No.[APPLICATION NUMBER], filed on [FILING DATE], and the references cited therein are hereby referenced, but are not required to be provided in this application under 37 CFR § 1.98(d).
- Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application, and the communication was not received by any individual designated in 37 CFR § 1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement. 37 CFR § 1.704(d).
- Applicant submits that no fee is required for the consideration of this Information Disclosure Statement.

Consideration of the listed references and favorable action are solicited.

Respectfully submitted,
XIAODONG HUANG et al.

Dated: June 25 , 2003

By: Michael W. Farn

Michael W. Farn, Reg. No. 41,015
FENWICK & WEST LLP
Silicon Valley Center
801 California Street
Mountain View, CA 94041
Tel: (650) 335-7823
Fax: (650) 938-5200



Substitute for form 1449A/PTO

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

Sheet

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of

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Complete if Known	
Application No.	10/087,408
Filing Date	March 1, 2002
First Named Inventor	Xiaodong Huang
Art Unit	2828
Examiner Name	James W. Davie
Attorney Docket Number	22920-06460

U.S. PATENT DOCUMENTS				
		Document No.		
Examiner Initials*	Cite No. ¹	Number – Kind Code ² (if known)	Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
	1	US-5,608,229 A	03-04-1997	Mukai et al.

FOREIGN PATENT DOCUMENTS				
		Foreign Patent Document		
Examiner Initials*	Cite No. ¹	Country Code ³ – Number ⁴ Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document T ⁶

OTHER REFERENCES – NON-PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published		T ⁶
	2	Komori, Kazuhiro et al., "Noise Study of Low-Dimensional Quantum-Well Semiconductor Laser Amplifiers," <i>IEEE Journal of Quantum Electronics</i> , IEEE Inc., New York, US, Vol. 28, No. 9, September 1, 1992, pages 1894-1900.		
	3	Saito, Hideaki et al., "Room-temperature lasing operation of a Quantum-dot vertical-cavity surface-emitting laser," <i>Applied Physics Letters</i> , American Institute of Physics, New York, US, Vol. 69, No. 21, November 18, 1996, pages 3140-3142.		
	4	Utzmeier, T. et al., "Growth and characterization of self-organized InSb quantum dots and quantum dashes," <i>Journal of Crystal Growth</i> , North-Holland Publishing Co., Amsterdam, The Netherlands, Vol. 175-176, May 1, 1997, pages 725-729.		R ⁷
	5	PCT International Search Report, International Application No. PCT/US01/29561, June 6, 2003, 7 pages.		I ⁸

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Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609.

Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.